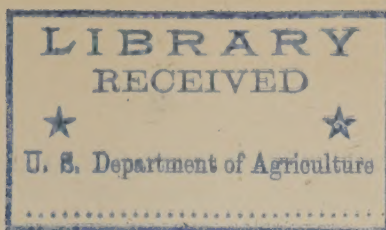


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E-11.

MONTHLY LETTER OF THE BUREAU OF ENTOMOLOGY.

U. S. DEPARTMENT OF AGRICULTURE.

Number 14.

June, 1915

INSPECTION OF FIELD STATIONS DURING JULY.

Dr. L. O. Howard, Chief of the Bureau of Entomology, will visit certain field stations of the bureau during July and August, especially in the far West.

NEWSPAPER CLIPPINGS WANTED.

Field men should send any and all clippings relating to any forms of insects or insect damage, domestic or foreign, to the chief of the bureau.

There is a small form, on which such clippings should be pasted, which will be furnished the field force upon application. [L. O. H.]

LIBRARY.

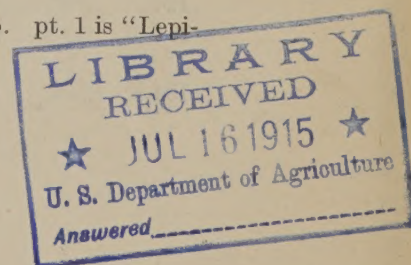
MISS MABEL COLCORD, *In Charge.*

Binding for the bureau library will be sent to the Government Printing Office in July. The librarian requests that the different offices to which books are charged more or less permanently will report such as need binding that they may be recalled and sent with others from the library at that time.

The bureau library has quite a number of duplicate bulletins on entomology from the various State experiment stations. If any of the offices or field stations will send in a memorandum of such as they may need, these will be forwarded, so far as possible, upon receipt of application.

NEW BOOKS IN LIBRARY.

- Blunno, Michele.—The use of phyloxera-resistant stock. 1914. (New South Wales. Dept. Agr. Farmers' Bul. 80.)
Buttel-Reepen, H. B. von.—Leben und wesen der bienen. 300 p. Braunschweig, 1915.
Ealand, C. A.—Insects and man. 332 p. New York, 1915.
Gibson, Arthur.—The army-worm. (Canada. Dept. Agr., Entom. Branch, Bul. 9. 1915.
Illick, J. S.—Pennsylvania trees. (Penn. Dept. Forestry, Bul. 11. June, 1914.)
Entomologisches jahrbuch for 1913 and for 1914.—Leipzig, 1913-1914.
Lumsden, L. L.—Typhoid fever; its causation and prevention. (Public Health Bulletin No. 69.)
Mordvilko, A. K.—Insectes hémiptères, v. 1, livr. 1. Petrograd, 1914.
Ramsay, A. A.—Lime-sulphur sprays; their manufacture, composition, and use. 1915. (New South Wales. Dept. Agr. Science Bul. No. 13.)
Schenkling, S.—Coleopterorum Catalogus, pt. 62. Spaeth. Chrysomelidae: 16 Cassidinae. Berlin, 1914.
Step, Edward.—Marvels of insect life. London, 1915.
Tutt, J. W.—Natural history of British butterflies, v. 4. London, 1910-1914. (British Lepidoptera, v. 11.)
U. S. Dept. Agriculture.—Yearbook for 1914. Washington, 1915.
Waterhouse, G. A.—The butterflies of Australia. Sydney, 1914.
Winn, A. F., and Beaulieu, G.—Insects of the Province of Quebec, pt. 2. Diptera. Ottawa, 1915. pt. 1 is "Lepi-
doptera," 1912.



REPORT OF EDITORIAL WORK FOR THE YEAR ENDED JUNE 30, 1915.

U. S. Department of Agriculture:

Bureau of Entomology—

	Is- sued.	In press.	In man- uscript.
Bulletins.....	4	0	0
Technical Series.....	6	0	1
Monthly Letters.....	4	1	0
Contributions from the Bureau of Entomology—			
Journal of Agricultural Research.....	10	2	1
Bulletins.....	30	20	2
Farmers' Bulletins.....	15	7	1
Yearbook article.....	1	0	0
Unnumbered publications.....	2	0	0
Office of Secretary—			
Circular.....	0	1	0
Reports.....	3	8	1
Total for year.....	75	39	6

Total publications issued, 75.

Issued and in press, 115.

Total publications handled, 120.

Number.	Title.	BULLETINS.	Author.	Issued.
94, Pt. II.	Biology of the Termites of the Eastern United States, etc.....	T. E. Snyder.....	Feb.	17, 1915
115	Contents and Index.....		Feb.	5, 1915
116do.....		Jan.	18, 1915
127do.....		Dec.	16, 1914

TECHNICAL SERIES.

17, Pt. II.	Preliminary Classification of the superfamily Scoly- toidea.....	A. D. Hopkins.....	Jan.	9, 1915
23	Contents and Index.....		June	22, 1915
25, Pt. II.	The yellow clover aphid.....	J. J. Davis.....	Nov.	12, 1914
25	Contents and Index.....		Apr.	26, 1915
27, Pt. II.	Classification of the Aleocharidae.....	A. L. Quaintance and A. C. Baker.	Sept.	9, 1914
27	Contents and Index.....		Feb.	13, 1915

UNNUMBERED PUBLICATIONS.

———.	The Pink Bollworm.....	W. D. Hunter.....	Aug.	7, 1914
———.	The Boll Weevil in 1914.....	W. D. Hunter.....	Jan.	1, 1915

CONTRIBUTIONS OF THE BUREAU OF ENTOMOLOGY.

BULLETINS.

95	Insect damage to the cones and seeds of Pacific Coast conifers.....	J. M. Miller.....	July	9, 1914
96	Temperature of the bee colony.....	B. N. Gates.....	July	22, 1914
100	Walnut aphides in California.....	W. M. Davidson.....	Aug.	31, 1914
111	The Sequoia pitch moth.....	Josef Brunner.....	July	11, 1914
112	The oat aphid.....	J. J. Davis.....	Aug.	21, 1914
113	The lesser bud-moth.....	E. W. Scott and J. H. Paine.....	Aug.	22, 1914
118	Experiments in the destruction of fly larvae in horse manure.....	Cook, Hutchison and Scales.....	July	14, 1914
124	The alfalfa caterpillar.....	V. L. Wildermuth.....	Aug.	28, 1914
131	Repellents for protecting animals from the attacks of flies.....	H. W. Graybill.....	Sept.	10, 1914
134	Citrus fruit insects in Mediterranean countries.....	H. J. Quayle.....	Oct.	7, 1914

Number.	Title.	Author.	Issued.
156	Wireworms attacking cereal and forage crops.....	J. A. Hyslop.....	Jan. 27, 1915
160	Cactus solution as an adhesive in arsenical sprays for insects.....	M. M. High.....	Jan. 22, 1915
161	The Mediterranean fruit fly in Bermuda.....	E. A. Back.....	Dec. 18, 1914
165	Quassia as a contact insecticide.....	W. B. Parker.....	Dec. 31, 1914
167	Para-dichlorobenzene as an insect fumigant.....	A. B. Duckett.....	Feb. 10, 1915
170	European pine-shoot moth.....	Aug. Busck.....	Feb. 9, 1915
173	Life history and habits of the pear thrips in California.	S. W. Foster and P. R. Jones..	Apr. 13, 1915
184	The Huisache girdler.....	M. M. High.....	Apr. 8, 1915
186	A method of fumigating seed.....	E. R. Sasser.....	Feb. 27, 1915
189	Studies of the codling moth in the central Appalachian region.....	F. E. Brooks and E. B. Blakeslee	Apr. 12, 1915
192	Insects affecting vegetable crops in Porto Rico.....	T. H. Jones.....	Apr. 8, 1915
197	Homemade lime-sulphur concentrate.....	E. W. Scott.....	Mar. 31, 1915
200	A maggot trap in practical use.....	R. H. Hutchison.....	May 4, 1915
204	Report on the gipsy moth work in New England.....	A. F. Burgess.....	May 21, 1915
221	The Southern corn leaf-beetle.....	E. O. G. Kelly.....	June 16, 1915
226	The verbena bud-moth.....	D. E. Fink.....	May 27, 1915
233	Relation of the Arizona wild cotton weevil to cotton planting in the arid West.....	B. R. Coad.....	May 27, 1915
235	Control of dried fruit insects in California.....	W. B. Parker.....	June 24, 1915
239	The eggplant lace-bug.....	D. E. Fink.....	June 24, 1915
264	The violet rove-beetle.....	F. H. Chittenden.....	June 15, 1915

FARMERS' BULLETINS.

606	Collection and preservation of insects and other material for use in the study of agriculture.....	C. H. Lane and Nathan Banks.	Aug. 20, 1914
626	The carpet beetle or "Buffalo moth".....	L. O. Howard.....	Dec. 2, 1914
627	The house centipede.....	C. L. Marlatt.....	Dec. 15, 1914
634	The larger corn stalk-borer.....	G. G. Ainslie.....	Dec. 7, 1914
636	The chalcis fly in alfalfa seed.....	T. D. Urbahns.....	Dec. 31, 1914
637	The grasshopper problem and alfalfa culture.....	F. M. Webster.....	Jan. 25, 1915
640	The Hessian fly.....	F. M. Webster.....	Mar. 17, 1915
649	Alfalfa attacked by clover-root curculio.....	F. M. Webster.....	Feb. 27, 1915
650	The San Jose scale and its control.....	A. L. Quaintance.....	Mar. 30, 1915
657	The chinch bug.....	F. M. Webster.....	May 6, 1915
658	Cockroaches.....	C. L. Marlatt.....	Mar. 27, 1915
659	The true clothes moths.....	C. L. Marlatt.....	Apr. 5, 1915
662	The apple-tree tent caterpillar.....	A. L. Quaintance.....	May 11, 1915
668	The squash-vine borer.....	F. H. Chittenden.....	May 26, 1915
671	Harvest mites or chiggers.....	F. H. Chittenden.....	May 26, 1915

JOURNAL OF AGRICULTURAL RESEARCH.

Vol. II, No. 6.	A new sarcophagid parasite of grasshoppers.....	E. O. G. Kelly.....	Sept. 25, 1914
No. 6.	Papaya fruit fly.....	Frederick Knab and W. W. Yothers.....	Sept. 25, 1914
III, No. 2.	Apple root borer.....	Fred E. Brooks.....	Nov. 16, 1914
III, No. 3.	Life history of the melon fly.....	E. A. Back & C. E. Pemberton.	Dec. 15, 1914
No. 4.	Susceptibility of citrus fruits to the attack of the Mediterranean fruit fly.....	E. A. Back and C. E. Pemberton.	Jan. 15, 1915
No. 4.	Three-cornered alfalfa hopper.....	V. L. Wildermuth.....	Jan. 15, 1915
No. 5.	Life history of the Mediterranean fruit fly from the standpoint of parasite introduction.....	E. A. Back and C. E. Pemberton.	Feb. 15, 1915
IV, No. 2.	Wilt of gipsy moth caterpillars.....	R. W. Glaser.....	May 15, 1915
No. 3.	A new wheat thrips.....	E. O. G. Kelly.....	June 15, 1915
No. 3.	Some sugar-cane root-boring weevils of the West Indies.....	W. D. Pierce.....	June 15, 1915

REPORTS, OFFICE OF THE SECRETARY.

Number.	Title.	Author.	Issued.
99	Classification of the Cryphalinae with descriptions of new species.....	A. D. Hopkins.....	Mar. 10, 1915
101	The wooly apple aphid.....	A. C. Baker.....	Mar. 31, 1915
102	Descriptions of some weevils reared from cotton in Peru.....	W. D. Pierce.....	Jan. 25, 1915
107	Larvæ of the Prioninae.....	F. C. Craighead.....	June 25, 1915

BEE CULTURE.

Dr. E. F. PHILLIPS, *In Charge.*

Mr. George S. Demuth is absent on leave, being engaged in looking after his extensive apiary at Peru, Ind.

Dr. N. E. McIndoo is to be transferred on July 1 to the Office of Deciduous Fruit Insect Investigations, where he will take up some new lines of work.

Dr. A. H. McCray is expecting to transfer his work on bee diseases to the Drummond Laboratory about July 1.

CEREAL AND FORAGE INSECT INVESTIGATIONS.

F. M. WEBSTER, *In Charge.*

Mr. L. P. Rockwood has returned to his field station from an investigation of alfalfa insects in the Yakima Valley, Wash.

Mr. T. D. Urbahns, of the Pasadena field laboratory, is looking after serious outbreaks of grasshoppers in the San Joaquin and Sacramento Valleys, Cal.

Mr. V. L. Wildermuth is on a trip of investigation throughout northern Arizona, making observations on the distribution and work of *Chaetocnema ectypa* and *Languria mozardi*, the former being quite destructive to corn and other crops, while the latter has been found much more destructive to alfalfa than in the eastern portion of the country. Other insects will also claim his attention.

Mr. E. O. G. Kelly is paying a visit to the Charleston (Mo.) field station, and, with Mr. Gibson in charge, is investigating the early stages of *Myochrous denticollis*.

Mr. George G. Ainslie is on a trip of investigation of various species of Crambidae, which seems to be doing a great deal of damage in the cornfields the present year, his trip taking him through the States of Missouri, Kansas, Nebraska, South Dakota, Minnesota, Illinois, and Iowa.

Mr. J. J. Davis has returned from a trip of investigation of *Lachnosterna* through Wisconsin, northern and southern Michigan.

Dr. Henry Fox and Mr. W. T. Emery are away from their field stations at Charlottesville, Va., investigating outbreaks of the southern corn rootworm (*Diabrotica 12-punctata*) and the sugar-cane beetle (*Ligyrus rugiceps*) in southern Virginia.

Mr. W. R. Walton, of the Washington office, investigated an outbreak of chinch bug in western Virginia.

Mr. A. B. Gahan has just returned from a trip to Canada to examine the Provancher types of parasitic Hymenoptera. Mr. Gahan found some surprises and is confident that many obscurities at present existing relative to these types will be dispelled.

Mr. Harrison E. Smith, of the Springfield (Mass.) laboratory, is in the midst of an extended campaign against grasshopper outbreaks in the Merrimac and Connecticut Valleys; besides, he is making arrangements for the collection and transportation of *Compsilura* to the field station

at Maxwell, N. Mex., to be used in range caterpillar investigations, and to Mr. R. N. Wilson, of the Gainesville (Fla.) laboratory, for colonization of the fall army worm (*Laphygma frugiperda*).

Mr. C. N. Ainslie, of the Elk Point (S. Dak.) station, is on an extended trip through Nebraska and Iowa investigating the peculiar Hessian fly conditions that exist in those localities, cooperating in Iowa with R. L. Webster, entomologist in charge at the Iowa Experiment Station.

Mr. P. H. Timberlake, of the Salt Lake City laboratory, in Mr. Rockwood's absence, is being assisted by Mr. Bevan, a temporary appointee from Colorado, in the distribution of the *Canidiella* parasites of the alfalfa weevil. Colonies of this parasite have been established at Murray, Salt Lake, Ogden, Kaysville, and Taylorsville, and it is expected to place additional colonies at Holliday, Provo, Logan, Brigham, and Park City.

Mr. James A. Hyslop, of the Hagerstown laboratory, is on a trip of investigation of wireworm outbreaks in New Jersey and New York.

Mr. P. R. Myers, of the Hagerstown station, is investigating the Hessian fly situation in Pennsylvania.

DECIDUOUS FRUIT INSECT INVESTIGATIONS.

A. L. QUAINANCE, *In Charge.*

Mr. H. B. Scammell, engaged in cranberry insect investigations with headquarters at Pemberton, N. J., reports unusual abundance and injury from the so-called cranberry tipworm, *Dasyneura vaccinii*, in cranberry bogs in that State. Careful biological studies are in progress, as well as experiments with remedies.

The present spring has witnessed an unusual outbreak of *Galerucella cavicollis*, which has been many times reported from Pennsylvania, New York, West Virginia, Michigan, and elsewhere, and has been especially injurious to cherry as well as peach.

Mr. E. H. Siegler, with headquarters at Grand Junction, Colo., reports very heavy damage to fruit in the Grand Valley by late spring frosts. Orchards have been found, however, with sufficient fruit to permit of experimental spraying for the codling moth, and there is abundant material of this species for life-history studies.

Mr. Fred E. Brooks has recently returned to his headquarters at French Creek, W. Va., from an extended trip through the South in connection with studies of the distribution and destructiveness of various species of apple-tree borers, especially *Saperda candida*.

Messrs. R. L. Nougaret and W. M. Davidson, of the Walnut Creek laboratory in California, will be in attendance at the International Congress of Viticulture, convening in San Francisco in connection with the Panama-Pacific Exposition, and will present a paper on the grape *Phylloxera* in California.

With the cooperation of Mr. A. F. Burgess, in charge of moth work, an effort is being made to introduce *Calosoma sycophanta* into certain apple-growing regions in the West. It will also be introduced in orchard-growing localities in the Alleghany Mountain region.

Mr. John B. Gill, of the Monticello, Fla., laboratory, has just completed a tour of investigation of pecan insects, visiting points in Mississippi and Louisiana.

Mr. Dwight Isely has recently completed a trip of inspection of vineyards in northern Ohio to determine the status of the grape berry moth, grape rootworm, etc.

An interesting and important addition to the knowledge of the life history of the brown grape aphid, *Macrosiphum viticola*, was reported in Science, vol. 41, n. s., No. 1066, by Messrs. A. C. Baker and W. F. Turner. *Viburnum prunifolium* was found to be an alternate food plant on which the insect winters.

FOREST INSECT INVESTIGATIONS.

A. D. HOPKINS, *In Charge.*

Mr. A. B. Champlain has been transferred from the field station at Colorado Springs, Colo., to the station at East Falls Church, Va., where he will continue his studies of beneficial forest Coleoptera.

Mr. Carl Heinrich has just returned from a two weeks tour in New York and Pennsylvania of investigations of the European pine-shoot moth (*Evetria buoliana*) and an outbreak of cankerworms.

Dr. A. D. Hopkins has spent about 10 days at Kanawha Station, W. Va., in connection with experimental work on insects affecting rustic work, a continuation of life-history studies on trap trees and general field work on forest insects.

Mr. F. C. Craighead spent about two days at Chillicothe, Ohio, examining a large poplar plantation for insect damage and arranging for experiments in the control of the borer and other insects affecting the poplar. Also three days at Kanawha Station, W. Va., where he was successful in collecting a large series of all stages of the very rare cerambycid beetle (*Leptura emarginatus*) and making some interesting new observations on hickory, ash, and oak insects. Mr. Craighead has just returned from a trip to Boston to study the results of experiments in the control of *Agrilus bilineatus*, which is responsible for the death of oak trees defoliated by the gipsy moth, and he reports that the experiments of disposing of the infestation in the principally infested trees has had a marked effect in reducing the number of dead trees. He also spent a day on Long Island inspecting the control work conducted on an estate against *Scolytus quadrispinosus* on hickory trees and *Agrilus bilineatus* on oak trees defoliated by cankerworms and tent caterpillars. He found that the control work had been done according to recommendations and with apparent success.

Mr. T. E. Snyder returned June 23 from a 10 days trip through the southern Appalachian Mountains in Virginia, Tennessee, and North Carolina to study the present status of infestation by the southern pine beetle (*Dendroctonus frontalis*) and to collect material; also to study the blight on white-pine twigs and the galls on spruce caused by a species of *Chermes*. In the course of his trip the White Top Purchase Area in Virginia and Tennessee was visited, where the Forest Service, upon recommendations of this branch, cut and burned the bark in March, 1915, on approximately 1,600 infested pine trees. Mr. Snyder found only three trees containing broods of *D. frontalis*, and these trees were not in the immediate vicinity of treated areas, which indicates the success of the control work. In the study of the *Chermes* blight the stands of spruce on White Top Mountain in Virginia, elevation 5,520 feet, and on Mount Mitchell in North Carolina, elevation 6,711 feet, were examined, as well as the white pine in the valleys, but no evidence of the pine twig blight or new *Chermes* galls were found in the localities where both were so common last year.

Mr. S. A. Rohwer has just returned from a tour into Canada and the New England States to study the types of parasitic Hymenoptera. A week was spent in Ottawa working over the types of Harrington and Provancher in the personal collection of W. H. Harrington and in the collection of the Division of Entomology of the Department of Agriculture, Canada. About three weeks were spent in studying the bulk of the Provancher collection, which is in the Museum of Public Instruction in the Parliamentary Building, Quebec. This collection contains most of the types of Provancher and is in fair condition, arranged exactly as left by Provancher. Another week was spent in Boston studying in the Museum of Cambridge University and in New Haven studying the Norton types in the collection of the Peabody Museum of Yale University.

Mr. W. S. Fisher has just returned from Harrisburg, Pa., where he is carrying on investigations of the hickory bark beetle.

SOUTHERN FIELD CROP INSECT INVESTIGATIONS.

W. D. HUNTER, *In Charge.*

Prof. G. W. Herrick, of Cornell University, made a trip to Louisiana at the end of the month to inspect the work on the boll weevil and on malaria mosquitoes.

Mr. W. D. Pierce made a short trip during the month to Atlanta, Ga., for a conference with the State entomologist, and Thomasville, Ga., to arrange for cooperation experiments between G. D. Smith, of this bureau, and the Georgia State Board of Entomology, and to Clarksville, Tenn., for a conference with the men engaged in tobacco-insect investigations. He also visited various points in the boll weevil infested territory.

Mr. D. L. Van Dine visited Washington for a conference during the month.

Mr. G. A. Runner has closed his laboratory at Richmond, Va., and will hereafter be stationed at Clarksville, Tenn. He made a short trip to Schenectady, N. Y., in connection with the tests of X-ray control of the cigarette beetle.

Mr. W. E. Dove has been assigned to horsefly experiments at Aberdeen, S. Dak.

The following temporary field assistants have been appointed and detailed for investigations of tobacco insects: Messrs. D. M. De Long, Charles Hauck, F. C. Liles, Frank G. Sorrels, Oakley M. Shelby, Mack S. Linebaugh, Samuel F. Grubbs, Carl A. Wickland, Richard K. Catlett, and Walter C. Nagle.

Messrs. E. K. Bynum and W. B. Williams have been appointed temporary field assistants and detailed for the investigation of the cotton boll weevil.

Mr. Max Kisliuk, jr., has been appointed a temporary field assistant and detailed to investigate the house fly at Drummond, Md.

TROPICAL AND SUBTROPICAL INSECT INVESTIGATIONS.

C. L. MARLATT, *In Charge.*

Mr. H. L. Sanford, inspector of the Federal Horticultural Board, recently detected a severe infestation of *Targionia harti* (Ckll.) on yams from the Philippine Islands. This scale insect has also been previously taken on tubers received from the West Indies.

A new quarantine inspection house is nearing completion in the Mall near the corner of Twelfth and B Streets NW. In the future all nursery stock addressed to the Department of Agriculture will be delivered to this house for inspection, and, if necessary, will be grown in quarantine in a tightly screened greenhouse constructed for this purpose.

Mr. E. R. Sasscer recently conducted some very interesting hydrocyanic-acid gas vacuum fumigation experiments with 30 bales of Egyptian cotton supplied by various New England cotton mills. The results of these tests indicate that the gas penetrates throughout the entire bale, and, in fact, adults of the common bean weevil (*Bruchus obtectus* Say), adults of the rice weevil (*Calandra oryza* L.), and larvæ of the clothes moths were killed at various points in the bales. This cotton has been returned to the mills, and is now being put through various milling tests in comparison with unfumigated cotton of a similar grade. All fumigated bales have been examined for residual gas, with the result that about five ten-millionths of a gram could be detected in each bale by the use of a very delicate test.

TRUCK CROP AND STORED PRODUCT INSECT INVESTIGATIONS.

F. H. CHITTENDEN, *In Charge.*

Mr. A. B. Duckett, scientific assistant, has just returned from a trip in New Jersey, where he has been investigating insects injurious to strawberries.

Mr. F. R. Cole, scientific assistant, a graduate of Pomona College, Cal., formerly located at Pasadena, Cal., has been transferred to Washington, D. C.

Dr. C. P. Gillette, director, Agricultural Experiment Station, Fort Collins, Colo., whose name is widely known as a specialist on aphides, leafhoppers, and related groups, has been appointed collaborator.

Mr. G. E. Bensel, for several years interested in practical entomology, has been appointed as collaborator in sugar-beet insect investigations, with headquarters at Oxnard, Cal.

We regret to announce that Mr. H. M. Russell, entomological assistant, who has been with this branch of the bureau for many years, died at Phoenix, Ariz., June 25, 1915.